

CLAIMS

I claim:

- [c1] 1. A fold out seat assembly adapted for being mounted on a support structure having a substantially vertical mounting surface, comprising:
- (a) a seat, comprising a front surface, two opposed sides, a back surface, a top surface, and a bottom surface, each said side having a slide rod end extending perpendicularly from the respective said seat side adjacent said back surface of said seat;
 - (b) a U-shaped frame comprising two sides and a connecting crossbar, each said frame side having an inner end pivotally supported by said structure on its said mounting surface above said seat, and said crossbar being pivotally mounted on and operative to support said bottom surface below and proximate the front surface of said seat during use thereof;
 - (c) a pair of substantially vertical, laterally spaced, parallel slide blocks integrally secured to said support structure's mounting surface, each slide block comprising an insertion port at an upper end of said slide block positioned opposite an insertion port of similar construction on the other slide block and adapted to permit a respective said slide rod end on the side of said seat to be inserted in or removed from the said slide block, a slide groove in which said slide rod end slides up and down, and a stop section at a bottom end of said slide block adapted to maintain said slide rod end in a locked position at the bottom end of said slide block when said seat is in a perpendicular position relative to the plane of said support structure's mounting surface; and
 - (d) said seat, frame, and slide blocks forming said assembly being configured to mount on said support structure's mounting surface so as to permit said seat and frame to be removed from said slide blocks and bulkhead when desired and said seat and frame to be used or stored on said slide blocks without support other than as provided by said frame, slide blocks, and support structure's mounting surface.

Attorney Docket No.: GRWB5002BO

- [c2] 2. A fold out seat assembly as claimed in claim 1 including a back support attached to said support structure's mounting surface above the seat assembly, said slide blocks extending below opposite ends of said back support.
- [c3] 3. A fold-out seat assembly as claimed in claim 1, wherein said support structure comprises a portion of a passenger carrying vehicle.
- [c4] 4. A fold-out seat assembly as claimed in claim 1, wherein said seat frame and slide blocks forming said assembly are also configured so as to enable said frame and seat to be positioned either for use or to be stored on the support structure's mounting surface by a single motion.
- [c5] 5. A fold-out seat assembly as claimed in claim 1, wherein said frame inner ends pivotally attached to said support structure's mounting surface and said crossbar pivotally mounted to said bottom surface comprise forms of attachment and mounting which enable both said inner ends and said crossbar to be readily detached and said fold-out seat assembly to be removed as a unitary assembly from said mounting surface.
- [c6] 6. A fold out seat assembly as claimed in claim 1, wherein said support structure comprises a portion of a passenger carrying vehicle and said support structure's mounting surface comprises a flat interior vertical surface of said passenger carrying vehicle.
- [c7] 7. A fold out seat assembly adapted for being mounted on a support structure having a substantially vertical mounting surface, comprising:
- (a) a back support;
 - (b) a seat, comprising a front portion, two opposed sides, a back portion, and a bottom surface;
 - (c) a slide rod fixed to said bottom surface of said seat near said back portion, said slide rod having a length greater than the width of said back portion and forming a pair of

slide rod ends, each of which extends perpendicularly from a said side at said back portion of said seat;

(d) a U-shaped frame comprising two sides and a crossbar, each frame side having an inner end pivotally supported by said support structure's mounting surface, and said crossbar being mounted to support said bottom surface of said seat proximate its said front portion during use of said seat;

(e) a pair of vertical, laterally spaced, parallel slide blocks fixedly attached to said support structure's mounting surface, each said slide block comprising:

- (i) a slide groove in which a respective said slide rod end slides up and down;
- (ii) an insertion port at an upper end of each said slide block through which a respective slide rod end is inserted into or removed from said slide groove; and
- (iii) a stop section formed at the bottom end of each said slide block to maintain said slide rod end in a locked position at said bottom end of said slide block when said seat is in a seating position; and

(f) said seat, frame, and slide blocks forming said assembly being configured to mount on said support structure's mounting surface so as to permit said seat and frame to be removed from said slide blocks and bulkhead when desired, and said seat and frame to be used or stored on said slide blocks without support other than as provided by said frame, slide blocks, and mounting surface.

[c8] 8. A fold-out seat assembly as claimed in claim 7, wherein said support structure comprises a portion of a passenger carrying vehicle.

[c9] 9. A fold-out seat assembly adapted for being mounted on a support structure having a substantially flat vertical wall capable of supporting the normally loaded weight of said assembly, comprising:

- (a) a seat, comprising a front surface, two opposed sides, a back surface, a top surface, and a bottom surface, each said side having a slide rod end extending perpendicularly from the respective said seat side adjacent said back surface of said seat;

- (b) a U-shaped frame comprising two sides and a crossbar, each said frame side having an inner end pivotally attached to an inner surface of said wall above said seat, and said crossbar being pivotally mounted on said seat below said front surface; and
- (c) a pair of substantially vertical, laterally spaced, parallel slide blocks integrally secured to said inner surface of said wall, each slide block comprising an insertion port at an upper end of said slide block adapted to receive a respective said slide rod end on the side of said seat and a slide groove in which said slide rod end slides up and down; and
- (d) wherein said frame inner ends pivotally attached to the said inner surface of said wall and the said crossbar pivotally mounted on said seat below said front surface comprise forms of attachment and mounting which enable both said inner ends and crossbar to be readily detached and said fold-out seat assembly to be removed as a unitary assembly from said wall.

[c10] 10. A fold-out seat assembly as claimed in claim 9, wherein said support structure comprises a portion of a passenger carrying vehicle.

[c11] 11. A fold-out seat assembly adapted for being mounted on a support structure having an interior vertical wall with a surface and construction suited for use as a support, comprising:

- (a) a seat having top, bottom, two opposed side, rear, and front surfaces;
- (b) a rod structure secured to said seat proximate said rear surface and having a pair of axially aligned rod ends, each of which said rod ends projects perpendicularly outward from a respective one of said side surfaces;
- (c) a pair of vertical, laterally spaced, parallel slide blocks secured to said interior wall, each slide block having a slide groove in which a rod end can slide up and down, an insertion port at an upper end of said groove adapted to permit a rod end to be inserted in said block for vertical sliding in said groove or to be removed from said block and a stop section at a bottom end of each said slide block adapted to maintain a slide rod end in a locked position at the bottom of the respective said slide block when said seat during use is in a perpendicular position relative to the plane of said support structure's interior wall;

Attorney Docket No.: GRWB5002BO

(d) a support frame having an upper portion detachably secured to said support structure's interior wall and a lower portion adapted to support an outer portion of said seat without interference with the space below said seat; and

(e) said seat, rod structure, slide blocks, and frame being configured to permit a rear portion of said seat while in use to be supported by means of said rod ends between and on said slide blocks, a front portion of said seat to be supported by the lower portion of said frame, and when said seat is not in use permits said seat and frame to be stored vertically adjacent said slide blocks or said seat to be removed from said slide blocks and said frame to be detached from said support structure's interior wall.

[c12] 12. A fold-out seat assembly as claimed in claim 11, wherein said support structure comprises a portion of a passenger carrying vehicle, and said interior wall comprises an interior wall within said vehicle.